Official Draft Public Notice Version April 16, 2013
The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

FACT SHEET AND STATEMENT OF BASIS
TOOELE WASTEWATER TREATMENT PLANT
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0025445
UPDES BIOSOLIDS PERMIT NUMBER: UTL-025445
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR000000
MINOR MUNICIPAL

FACILITY CONTACTS

Person Name:	Gary Campbell
Position:	Public Works Director
Phone Number:	(435) 843-2100
Person Name:	Dan Olson
Position:	Wastewater Superintendent
Phone Number:	(435) 882-1952

Facility Name:	The Tooele City Wastewater Treatment Plant (Tooele)
Mailing and Facility Address:	90 North Main Tooele, Utah 84074
Telephone:	(435) 882-1952
Actual Address:	3300 North 1200 West

DESCRIPTION OF FACILITY

The Tooele City Wastewater Treatment Plant (Tooele) is located at 3300 North 1200 West, Tooele, Utah and serves the City of Tooele with the outfall located at latitude 40°35'40" and longitude 112°19'40". The design capacity is 2.25 MGD, population equivalent of 17,000, and influent organic loadings of 200 mg/L each for BOD_5 and TSS. Present flow is approximately 1.42 MGD on average and up to a peak hourly flow of 5.65 MGD.

The facility consists of headworks, 2 oxidation ditches, 3 final clarifiers, 3 sand filters, 1 chlorine contact basins, 1 gravity sludge thickener, and 1 biosolids handling facility. Tertiary treatment is required to meet Type 1 Reuse requirements. Biosolids are hauled to an offsite facility located at the Tooele County landfill where 100% of the biosolids are composted.

Due to increased development in the area the Tooele worked on facility expansion during the previous permit cycle. The expansion doubled the facility capacity to 4.5 MGD average flow and 11 MGD peak hourly. The current UPDES permit is limited to 2.25 MGD. This limit applies only to any effluent that might be discharged to the ditch, and not to any Reuse water that might be used.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Tooele has improved treatment and changed some of the process on site. Most notably they have added a UV Disinfection System and added a Solar Dryer for biosolids treatment. The UV system was added after the chlorination system. The chlorination system is still operational as a backup, and will be maintained but is not required as long as the UV system is operating.

The facility will produce Type I reuse water and the renewal permit will include provision covering the Type I reuse of the effluent.

DISCHARGE

DESCRIPTION OF DISCHARGE

Tooele is a total reuse facility. Tooele maintains a UPDES permit in the event that a discharge from their facility is necessary.

Tooele has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. Tooele discharged for 1 week in 2005 during a previous permit cycle. There have been no violations or discharges since 2005.

Outfall	Description of Discharge Point
001	Located at latitude 40°35'40" and longitude 112°19'40". The discharge is by pumping out of the reuse reject pond to an unnamed irrigation ditch that collects storm water runoff from the road and fields in the area. The ditch runs north along the road until it dissipates. The ditch does not enter any other waterway or the Great Salt Lake.

Outfall	Description of Reuse Water Discharge Point
001R	Located at latitude 40°35'40" and longitude 112°19'40". The discharge is through a pipe to ponds on the Tooele Golf Course. The water is then used to irrigate the golf course. It is also available at the plant for use in dust control activities in Tooele.

RECEIVING WATERS AND STREAM CLASSIFICATION

If a discharge were to occur, it would flow into an irrigation ditch, which is a Class 4 according to *Utah Administrative Code (UAC) R317-2-13*:

Class 4 -Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), fecal and total coliforms, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease is based on best professional judgment (BPJ). Attached is a Wasteload Analysis for this discharge into the unnamed irrigation ditch. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required since the Level I review shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations. The permit limitations are:

Parameter	Outfall 001 Effluent Limitations *a			
	Max Monthly Average	Max Weekly Average	Minimum	Maximum
Flow, MGD	NA	NA	NA	2.25
BOD_5, mg/L BOD_5 Min. % Removal	25 85	35 NA	NA NA	NA NA
TSS, mg/L TSS Min. % Removal	25 85	35 NA	NA NA	NA NA
E-coli, No/100mL	126	157	NA	NA
Oil & Grease, mg/L	NA	NA	NA	10
pH, Standard Units	NA	NA	6.5	9.0

NA – Not Applicable.

The permit limitations for Outfall 001R (Reuse) are:

Parameter	Outfall 001R Effluent Limitations *a				
	Max Monthly Average	Max Weekly Median	Max Daily Average	Minimum	Maximum
Turbidity, NTU	NA	NA	2	NA	5
BOD_5, mg/L	10	NA	NA	NA	NA
E-coli, No/100mL	NA	0	NA	NA	9
pH, Standard Units	NA	NA	NA	6.0	9.0

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly and quarterly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the quarterly DMRs.

Outfall 001 Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow, *b, *c	Continuous	Recorder	MGD
BOD_5, *d Influent Effluent	2 X Weekly 2 X Weekly	Composite Composite	mg/L mg/L
TSS, *d Influent Effluent	2 X Weekly 2 X Weekly	Composite Composite	mg/L mg/L
E. coli Coliforms	2 X Weekly	Grab	mg/L
Oil & Grease	Monthly	Grab	mg/L
pH	2 X Weekly	Grab	SU
Metals, *d Influent Effluent	2 X Annually 2 X Annually	Composite Composite	mg/L mg/L
Organic Toxics	2nd and 4th Year of the Permit Cycle	Grab	mg/L

Reuse Outfall 001R Self-Monitoring and Reporting Requirements *a *f			
Parameter	Frequency	Sample Type	Units
Total Flow, *b, *c	Continuous	Recorder	MGD
Turbidity	Continuous	Recorder	mg/L
TRC *e	Daily	Recorder	mg/L
BOD_5	Weekly	Composite	mg/L
E. coli Coliforms	Daily	Grab	No./100mL
pH	Daily	Grab	SU

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

*e Residual is recommended but no longer required. Sampling not required if chlorination is not being used.

*f Reuse monitoring results obtained during the previous month for reuse discharges shall be summarized for each month and reported on a Monthly Operational Report, post-marked no later than the 28th day of the month following the completed reporting period.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

SUBSTANTIAL BIOSOLIDS TREATMENT CHANGES

In 2012, Tooele decided to change the treatment of their biosolids from a lime stabilized product that met Class B standards, to a modern "state of the art" solar drying system that basically consist of two screw pumps for de-watering, and a greenhouse for further treatment and drying. The 2012 annual biosolids report states that 282 dry metric tons of biosolids were stabilized with lime, to meet Class B standards, and land applied at a farm owned by Vic Warr, to cultivate grain for cattle feed, and 27 dry metric tons that met Class A standards, that were sold or given away to the public. There are currently 328 dry metric tons of stored biosolids.

DESCRIPTION OF TREATMENT AND DISPOSAL

The solids at the Tooele are stabilized with oxidation ditches for about 15 days, then pumped to screw press's for de-watering. The solids are further de-watered and dried with solar green houses to hopefully meet Class A standards. If the biosolids do not meet Class A standards, testing to date, has shown the biosolids do meet Class B standards. The goal of the greenhouses is to produce a Class A biosolids product through testing, to show that the biosolids are safe a product which may sold or given away to the

public. However, with the lower temperatures during the winter months, it may not always be possible to meet the Class A requirements through testing, and a Class B product may be produced for land application to farm fields, or other low public contact sites. Tooele plans to continue using the screw presses and the greenhouses for the life of this five year permit.

SELF-MONITORING REQUIREMENTS
Under *40 CFR 503.16(a)(1),* the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring	
Amount of Biosolids Disposed Per Year	**Monitoring Frequency**
> 0 to < 290, DMT	Once per year
> 290 to < 1,500, DMT	Four times per year
> 1,500 to < 15,000, DMT	Six times per year

In 2012, the Tooele disposed of 309 DMT of biosolids, therefore they need to sample at least four times a year.

Landfill Monitoring
Under *40 CFR 258,* the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c)(1).*
No biosolids were landfilled in 2012.

MONITORING DATA
Tooele sampled the Class A and Class B biosolids for heavy metals three times in 2012[1]. The data below shows that Tooele met the requirements for exceptional quality biosolids, with respect to heavy metals, whether the biosolids were Class A, or Class B with respect to pathogens.

HEAVY METALS MONITORING

AVWRF Metals Monitoring Data, 2010			
Parameter	Table 3, (Exceptional Quality) mg/kg	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	10.3	10.9
Cadmium	39.0	0.73	1.0
Copper	1,500.0	390.0	519.0
Lead	300.0	14.6	18.3
Mercury	17.0	0.97	1.3
Molybdenum	75.0	8.7	11.4
Nickel	400.0	9.8	12.8
Selenium	36.0	10.7	13.0
Zinc	2,800.0	433.0	564.0

[1] The heavy metals should have been sampled at least four times in 2012. There was a misunderstanding between the Division of Water Quality, and the employee who took over the new Tooele biosolids program in 2012. This permit writer is not concerned with the lack of one heavy metals data point last year, due to the fact that Tooele has consistently met Class A exceptional quality heavy metals standards through the years. Also, Tooele barely exceeded the 290 dry metric tons mark, which triggers four heavy metals samples a year instead, instead of one sample a year, and the fact that the other three samples all met, exceptional quality, Class A, heavy metals standards as well. More importantly, Tooele exceeded the pathogen sampling requirements for the small amount of Class A biosolids that were sold or given away to the public

PATHOGEN MONITORING DATA, CLASS A

Tooele Pathogen Monitoring Data, 2010	
Fecal Coliform, most probable number per gram of total solids.	956 MPN/g
Plaque forming unit per 4 grams of enteric virus	< .0 pfu/4g
Viable Helminth Ova/4g/total solids	<1.0 Ovum/4g

PATHOGEN MONITORING DATA, CLASS B

Tooele Pathogen Monitoring Data, 2010	
Salmonella, mpn/4g/total solids	<1.0 MPN/4g
Plaque forming unit per 4 grams of enteric virus	< 1.0 pfu/4g
Viable Helminth Ova/4g/total solids	<1.0 Ovum/4g

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use
The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see **Part I. D. 11**. of the permit) to be handed out to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements With Regards to Heavy Metals
If the biosolids are to be applied to a lawn or home garden, the biosolids shall meet the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see the Table 1 and Table 3 below). If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites
The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see **Part I. D. 11**. of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites. If the biosolids are land applied according to the regulations of *40 CFR 501.13,* to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals
If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

> The maximum heavy metals listed in Table 1 and the heavy metals loading rates in Table 2; or

The maximum heavy metals in Table 1 and the monthly heavy metals concentrations in Table 3.

If the biosolids do not meet these requirements they cannot be land applied.

Tables 1, 2, and 3 of Heavy Metal Limitations

Heavy Metals All heavy metals concentrations shall be measured and reported	Table 1 Daily Maximum mg/Kg a/b/c/d/	Table 2 Cumulative Loading Rate Kg/Ha a/	Table 3 Monthly Average Concentration mg/Kg a/b/c/d/
Total Arsenic	75	41	41
Total Cadmium	85	39	39
Total Copper	4300	1500	1500
Total Lead	840	300	300
Total Mercury	57	17	17
Total Molybdenum	75	N/A	N/A
Total Nickel	420	420	420
Total Selenium	100	100	100
Total Zinc	7500	2800	2800

a/ See Part V. of the permit for definition of terms.

b/ The limitations represent the maximum allowable levels of heavy metals in any biosolids intended for land application.

c/ Any violation of these limitations shall be reported in accordance with the requirements of Part **II.G.1**. of the permit.

d/ These limitations represent the maximum allowable levels of heavy metals based on an average of all samples taken during a 30-day period.

Pathogens

Class A Requirements for Home Lawn and Garden Use
Tooele intends to achieve Class A biosolids through testing for pathogens:

Under *40 CFR 503.32(6), Class A, Alternative 4(i),* Tooele is allowed to do additional testing of pathogens in lieu of a process to further reduce pathogens (PFRP) to meet Class A standards. This additional testing requires Tooele to monitor for viable helminth ova (tape worms and round worm eggs that could hatch), enteric viruses (viruses of the gut), and either *fecal* coliform or *salmonella* bacteria.

Pathogens Class B
If the biosolids are land applied for agriculture or reclamation purposes, the biosolids need to be treated by a specific process to significantly reduce pathogens (PSRP) or meet a fecal coliform limit of less than 2,000,000 most probable number per gram (MPN/g) of total solids. Tooele has chosen to meet the fecal coliform limitations.

Vector Attraction Reduction
Tooele needs to meet a method of vector attraction reduction (VAR) if the biosolids are land applied. Tooele intends to meet VAR through drying. *(The percent of solids is 90% or more prior to sale of giveaway, for either Class A or Class B biosolids,40 CFR 503.33 (b)(9).*

RECORD KEEPING
The record keeping requirements from *40 CFR 503.17* are included under *Part II.F.* of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

REPORTING
The Tooele must report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with *Part II.C* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

STORM WATER

STORMWATER REQUIREMENTS
Storm water provisions are included in this combined UPDES permit.

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP). All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team:
2. Development of drainage maps and materials stockpiles:
3. An inventory of exposed materials:
4. Spill reporting and response procedures:
5. A preventative maintenance program:
6. Employee training:
7. Certification that storm water discharges are not mixed with non-storm water discharges:
8. Compliance site evaluations and potential pollutant source identification, and:
9. Visual examinations of storm water discharges.

Tooele is currently covered under the UPDES Multi Sector General Permit for Industrial Activities.

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, there are no categorical industries discharging to the treatment facility, industrial discharges comprise less than 1 percent of the flow through the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's

UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Also, the receiving irrigation ditch is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. Based on these considerations, and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Daniel Griffin, Discharge
Mark Schmitz, Biosolids
Jennifer Robinson, Pretreatment
Michael George, Storm Water
Utah Division of Water Quality